5. Grades

Program Name: Grades.java Input File: grades.dat

Mrs. Frizzle recently graded her class's papers on their field trips this year. However, since she has more fun things to do than count up the grade distribution for these papers, she has her TA (you) total them. Write a program that prints the total number of papers that received each letter grade. Letter grades are defined as follows: $90 \le x \le 100$ is an A, $80 \le x \le 90$ is a B, $75 \le x \le 80$ is a C, $70 \le x \le 75$ is a D, and $x \le 70$ is an F. On rare occasions, an assignment is so difficult that there are no submissions at all.

Input

The first line contains the number of the sets of papers to grade.

The first line of each set contains an integer N, the number of papers P in the set, and the name of the set.

The next P lines each contain the name of the student and their respective grade, for $0 \le \text{grade} \le 100$.

Each name will consist of letters and numbers only (no spaces).

Output

For each set of papers, print the name of the set on one line and the number of each papers of each letter grade on their own line as in the example. If no papers received a letter grade output a 0 for the number.

Example Input File

2
4 Mars
Liz 100
Carlos 83
Ralphie 76
Janet 42
9 Intestines
Liz 100
Carlos 90
Ralphie 80
DorothyAnn 75
Keesha 70
Phoebe 89
Timoty 79
Wanda 74
Arnold 69

Example Output to Screen

Mars
A 1
B 1
C 1
D 0
F 1
Intestines
A 2
B 2
C 2
D 2
F 1